INTELLIGENT ADAPTIVE OPTIMIZATION OF
DISPLAY NAVIGATION AND DATA SHARING

ABSTRACT OF THE DISCLOSURE

A method and apparatus for optimizing the navigation of lists or other hierarchies of

5   alternatives, as presented to the user by electronic devices and computer networks, by automatically recommending the alternatives of the next list to be presented. Each alternative is recommended on the basis of the importance of that alternative to the user, or to the operator of the service provided to the user, or to providers of applications that can be selected by the user. The optimization is based upon probabilities estimated by mathematical functions on several

10 variables, statistics, and parameters, including but not limited to the user location, time and date, user's expressed personal preferences, service operators' and application providers' expressed commercial intentions, service operators' and application providers' expressed business rules, implied application relationships, personal information of the user, usage statistics of the user, usage statistics of the general public, and embedded parameters which refine a statistical model

15 of the user's behavior, statistics and estimators based upon that model, and a business objective model of the revenue improvements of service operators using this invention. Such optimization reduces the efforts required of a user to select one item, out of a structure of lists of items, by reorganizing the structure so that the user is likely to use fewer keystrokes or spoken words to select an item of combined higher importance to the user, the service operator, and the

20 application provider. The optimization is personalized to each user by presenting the lists and structures to each user in a way that is automatically adapted to the statistical and deterministic factors pertaining to that individual user, so that users of different personalities and preferences can see or hear differently organized lists from which to choose. The number of keystrokes, or spoken words, is further reduced by intelligent data sharing between applications to avoid

25 requiring the user's reentry of the same data to one application that was already entered in another.